

WIU ENGINEERING DEGREE



WESTERN
ILLINOIS
UNIVERSITY

Curriculum and Admission Requirements

Students seeking admission to the Engineering program must satisfy general University admissions requirements. Contact the School of Engineering for more details. Students seeking transfer credit for required Engineering core courses must have earned a grade of "C" or better in any Math, Science, or Engineering course listed below.

Bachelor of Science – Engineering: 121 s.h.

University General Education* - 33 s.h.

- Communication Skills (9 s.h.)
- Social Sciences (9 s.h.)
- Humanities (9 s.h.)
- Multicultural Studies (3 s.h.)
- Human Well-Being (3 s.h.)

*The math and natural science requirement is satisfied by the following Math & Science requirements:

Math & Science

Math – 15 s.h.

- Calculus & Analytic Geometry I, II, III (12 s.h.)
- Ordinary Differential Equations (3 s.h.)

Physics & Chemistry – 15 s.h.

- University Physics I (4 s.h.) (Mechanics)
- University Physics III (4 s.h.) (Electro-Magnetism)
- Inorganic Chemistry I (4 s.h.)
- Take a 2nd Chemistry or 3rd Physics to complete 15 hours.

Core Courses - 49 s.h.

- ENGR 105 – Engineering Graphics (3 s.h.)
- ENGR 220 – Computational Methods for Engineers (3 s.h.)
- PHYS 312 - Statics and Dynamics (4 s.h.) or equivalent(s)
- ENGR 251 - Strength of Materials (3 s.h.)
- ENGR 271 – Engineering Electrical Circuits (3 s.h.)
- ENGR 300 – Engineering Thermodynamics (3 s.h.)
- ENGR 310 - Fluid Dynamics (3 s.h.)
- ENGR 320 - Mechanical Design (3 s.h.)
- ENGR 331 - Engineering Project Management (3 s.h.)
- ENGR 340 - Manufacturing Engineering (3 s.h.)
- ENGR 351 - Engineering Material Science (3 s.h.)
- ENGR 360 - Structural Design (3 s.h.)
- ENGR 370 - Microelectronics I, Circuit Analysis & Design (3 s.h.)
- ENGR 470 - Mechatronics I (3 s.h.)
- ENGR 490 - Engineering Senior Design (4 s.h.)
- ENGR 491 - Engineering Internship (2 s.h.)

Electives – 9 s.h.

* Note: Course available FY2013

** Note: Any electives can be taken as long as the pre-requisites are satisfied. Electives below are shown in logical groupings for those wishing to take coherent sequences of courses leading to greater depth and specialization. The availability of course offerings will be determined on class interest.

Track A - Mechanical

- ENGR 410 – Intermediate Thermo-Fluid Dynamics (3 s.h.)
- ENGR 411 – Heat Transfer (3 s.h.)
- ENGR 481 - Finite Element Analysis (3 s.h.)
- ENGR 482 – Parametric Modeling (3 s.h.)

Track B – Civil Engineering

- ENGR 453 – Geotechnical Design (3 s.h.)
- ENGR 460 – Steel Design (3 s.h.)
- ENGR 461 – Concrete Design (3 s.h.)

Track C – Quality/Manufacturing

- ENGR 345 - Quality Engineering (3 s.h.)
- OM455 - Total Quality Management (3 s.h.)
- MET 400 level courses

Track D – Engineering Management

- ENGR 330 – Engineering Economics (3 s.h.)
- ENGR 345 – Quality Engineering (3 s.h.)
- OM 352 - Operations Management (3 s.h.)
- Other Operations Management (OM) or Management (Mgt) 400 level courses

Track E - Electrical/Computer Engineering

- CS 350 - Data Structures I (3 s.h.) (Note: other 300-400 level CSIS courses with approval)
- ENGR 471 – Microelectronic Circuits II (3 s.h.)
- ENGR 472 - Mechatronics II (3 s.h.)
- ENGR 473 – Industrial Controls (3 s.h.)

*Track F – Materials Engineering**

- ENGR 450 – Metallurgy (3 s.h.)*
- ENGR 451 – Introduction to Composites Materials (3 s.h.)*
- ENGR 421 – Advanced Composites Design (3 s.h.)*

Contact Information

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